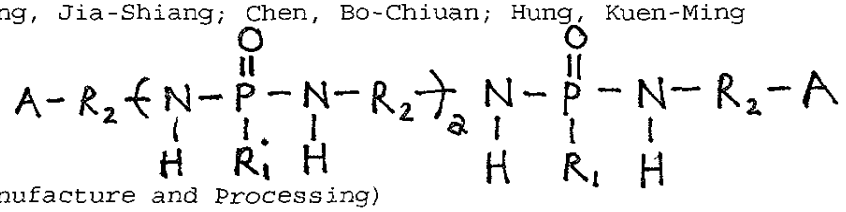
TW 401,433

AN 2002:709675 CAPLUS
DN 137:217752
TI Phosphorous-containing multifunctional compounds as crosslinking agent imparting flame retardancy
IN Guo, Bing-Lin; Wang, Jia-Shiang; Chen, Bo-Chiuan; Hung, Kuen-Ming
PA Taiwan
SO Taiwan, 21 pp.
CODEN: TWXXA5
DT Patent
LA Chinese
IC ICM C08G079-02
CC 37-6 (Plastics Manufacture and Processing)
Section cross-reference(s): 42



FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI TW 401433	B	20000811	TW 1998-87119530	19981123
PRAI TW 1998-87119530		19981123		

AB This phosphoramide or phosphonamide compds. AR2(NHP(O)R1NHR2)aNHP(O)R1NHR2 A are prepd.; (A) = NH2, H or none (R2) = H); (R1) = OR, (Ar) OAr, NHR, NH(CH2)nAr; R = satd. or unsatd. aliph. group; (Ar) = arom. group; (R2) = H, alkylenediamine residue, (n) = 1-30; (a) = 0-1000; X = CH2, O, SO2. These compds. can be used to prep. polyurethane or epoxy resin with good fire resistance. Reaction of POCl3 with n-BuNH2 in PhMe gave N,N',N''-tributylphosphoramide, useful as crosslinking agent of epoxy resins.

ST phosphoramide phosphonamide crosslinking agent flame retardancy; butylamine phosphoryl chloride tributylphosphoramide crosslinker

IT Coating materials
(fire-resistant; phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

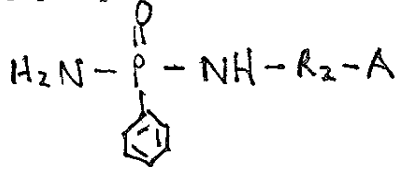
IT Crosslinking agents
Fire-resistant materials
Fireproofing agents
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT Epoxy resins, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT Polyurethanes, preparation
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(polyoxyalkylene-; phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT 106-92-3DP, Allyl glycidyl ether, reaction product with H siloxane 161127-41-9DP, Methylhydrogensilanediol-octamethylcyclotetrasiloxane copolymer, reaction product with allyl glycidyl ether
RL: IMF (Industrial manufacture); PREP (Preparation)
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT 4707-88-4P, Phenylphosphonic diamide 14360-81-7P 19622-52-7P 20638-28-2P 23344-69-6P 25190-24-3P 25190-26-5P **25279-96-3P**, Hexamethylenediamine-phenylphosphonic dichloride copolymer **25279-98-5P**, p-Phenylenediamine-phenylphosphonic dichloride copolymer 25949-16-0P, Ethylenediamine-phenylphosphonic dichloride copolymer, sru **28851-33-4P**, Phenylphosphonic dichloride-p-diaminodiphenylmethane copolymer **28851-34-5P**, Ethylenediamine-phenylphosphonic dichloride copolymer 31868-37-8P,



Phenylphosphonic dichloride-p-diaminodiphenylmethane copolymer, sru
37624-66-1P 53721-41-8P 99190-25-7P 453537-97-8P 453557-97-6P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); PREP (Preparation); USES (Uses)
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT 23344-69-6DP, reaction product with siloxane glycidyl ether
37624-66-1DP, reaction product with siloxane glycidyl ether
319915-23-6DP, EP 128, reaction product with phosphoramides and siloxane
453537-98-9P 453537-99-0P 453538-00-6P
453538-01-7P 453538-02-8P
RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

IT 100-46-9, Benzylamine, reactions 101-77-9 107-10-8, n-Propylamine, reactions 107-15-3, Ethylenediamine, reactions 108-95-2, Phenol, reactions 109-73-9, Butylamine, reactions 124-09-4, Hexamethylenediamine, reactions 141-43-5, Ethanolamine, reactions
824-72-6, Phenylphosphonic dichloride 2240-41-7, Dimethyl phenylphosphonate 7664-41-7, Ammonia, reactions 10025-87-3, Phosphoryl chloride 20638-26-0 25265-76-3, Phenylenediamine
RL: RCT (Reactant); RACT (Reactant or reagent)
(phosphorous-contg. multifunctional compds. as crosslinking agent imparting flame retardancy)

WEST

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L1: Entry 1 of 1 File: DWPI Aug 11, 2000

DERWENT-ACC-NO: 2001-209742
DERWENT-WEEK: 200121

TITLE: Phosphorous-containing multifunctional compounds with flame-retarding properties

INVENTOR: CHEN, B; GUO, B ; HUNG, K ; WANG, J

PATENT-ASSIGNEE:

ASSIGNEE	CODE
GUO B	GUOBI

PRIORITY-DATA: 1998TW-0119530 (November 23, 1998)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
TW 401433 A	August 11, 2000		021	C08G079/02

No image

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
TW 401433A	November 23, 1998	1998TW-0119530	

INT-CL (IPC): C08 G 79/02

ABSTRACTED-PUB-NO: TW 401433A
BASIC-ABSTRACT:

NOVELTY - This invention describes the manufacture of a series of a new type of multifunctional phosphorous-containing compounds with flame-retarding properties,

DETAILED DESCRIPTION - The phosphorous-containing compounds are of formula AR2(NHP(O)(R1)NHR2)aNHP(O)(R1)NHR2A.

A = -NH2, H or no group when R2 is H;

R1 = -OR, -Ar, -OAr, -NHR, -NH(CH2)nAr;

R = saturated or unsaturated aliphatic group;

Ar = aromatic group;

R2 = H, the moiety of diamine excluding the amino group, such as: -(CH2)n-, cyclohexyl, phenylene, PhXPh-, and biphenyl;

n = 1-30;

X = -CH2, O, SO2;

Ph = phenyl;

a = 0-1000.

USE - The phosphorous-containing compounds can react with isocyanate to form polyurethane or with epoxy resin to from epoxy polymers having excellent flame-retarding properties.

CHOSEN-DRAWING: Dwg.0/0

TITLE-TERMS: PHOSPHOROUS CONTAIN MULTIFUNCTION COMPOUND FLAME RETARD PROPERTIES

DERWENT-CLASS: A21 E11

CPI-CODES: A05-A; A05-G; A09-A01; E05-G02; E05-G06;

SECONDARY-ACC-NO:
CPI Secondary Accession Numbers: C2001-062269

中華民國專利公報 [19] [12]

[11]公告編號：401433
[44]中華民國 89年 (2000) 08月11日
發明

全 2 頁

[51] Int.Cl 06: C08G79/02

[54]名 稱：防燃性含磷氮之具多官能基的化合物

[21]申請案號： 087119530 [22]申請日期： 中華民國 87年 (1998) 11月23日

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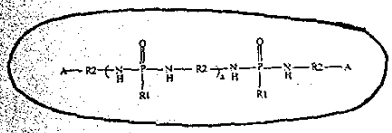
[57]申請專利範圍：

1.一種防燃性含磷與氮之具多官能基的化合物，如式一所示：



(式一)

其中：

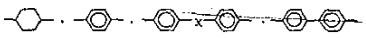
A=-NH_2， H_1 or none(當 R2=H)

R1=-OR， -Ar， -OAr， -NH-R， -NH-$(CH_2)n$-Ar

R：為飽和或不飽和之 aliphatic group

Ar： aromatic group

R2=H，與二胺之胺基以外之部分，如-(CH2)n-，



5.

n=1～ 30的任一整數

a=0～ 1000

X=CH_2， O， SO_2

2.如申請專利範圍第 1項所述之防燃性含磷之具多官能基的化合物，其中 A是 -NH_2。

3.一種防燃性含磷之聚胺基甲酸酯，其係由申請專利範圍第 2項所述之防燃性含磷之具多官能基的化合物與多異氰酸酯或二異氰酸酯反應。

4.一種防燃性含磷之聚胺基甲酸酯彈性體，其係由申請專利範圍第 2項所述之防燃性含磷之具多官能基的化合物與多異氰酸酯或二異氰酸酯反應，在與多酚、

多胺或多醇反應而得。

5.一種防燃性含磷之聚胺基甲酸酯塗料，其係於使用時由(a)、(b)兩液混合使用(a)液係由申請專利範圍第2項所述之防燃性含磷之具雙官能基的化合物，(b)液包括二異氰酸酯。

6.一種防燃性含磷之聚環氧高分子，係由申請專利範圍第2項所述之防燃性含磷之具多官能基的化合物與環氧樹脂反應而得，其中環氧樹脂選自雙醛A環氧樹脂(bisphenol A epoxy resin)，酚醛環氧樹脂(novel epoxy resin)，可撓性環氧樹脂(flexible epoxy resin)，環氧

化烯烴(epoxid olefin)，鹵化環氧樹脂(halogenated epoxy resin)之具多官能基的化合物與環氧樹脂反應而得。

7.一種防燃性含磷之環氧高分子塗料，其係於使用時由(a)、(b)兩液混合使用，(a)液包括包括申請專利範圍第2項所述之防燃性含磷之具雙官能基的化合物，(b)液包括環氧樹酯，選自雙醛A環氧樹脂(bisphenol A epoxy resin)，酚醛環氧樹脂(novel epoxy resin)，可撓性環氧樹脂(flexible epoxy resin)，環氧化烯烴(epoxid olefin)，鹵化環氧樹脂(halogenated epoxy resin)。